

# **EAGLE PRO**

## Worldwide Hydraulic Solutions

Form No. E10002

Rev. A. 07.14.2014

### INSTRUCTION MANUAL

### ESW SERIES HYDRAULIC TORQUE WRENCH



# 01 SAFETY INSTRUCTIONS

Carefully inspect all components for shipping damage. If shipping damage is found, notify the carrier at once. The carrier is responsible for any damage resulting from shipment.

To avoid personal injury or property damage, please read, understand, and follow all safety instructions.

EAGLE PRO is not responsible for injury or damage resulting from unsafe and/or incorrect product use or system operation, or lack of proper maintenance.

**DANGER!** Is used only when your action or lack of action may cause serious injury or death.

**WARNING!** Is used when a potential danger exists that requires correct action to avoid personal injury.

**IMPORTANT!** Is used when action or lack of action can cause equipment failure.



## **WARNING!**

**One person should operate both the hydraulic pump and the hydraulic torque wrench, unless there is clear and unobstructed communication between the two operators. Do not place hands near action or reaction points.**



## **IMPORTANT!**

- ◆ To avoid personal injury or property damage, please read, understand, and follow all safety instructions.
- ◆ Always keep work area clean and free of clutter.
- ◆ When not in use, tools should be properly stored to avoid damage .
- ◆ Operator must wear proper safety attire when working with hydraulic equipment. Work gloves, safety glasses, hard hats, approved safety shoes, and hearing protection and/or other required clothing should be worn while operating this equipment.



## **DANGER!**

Ensure that the operator is full trained and responsible during the use of this tool. EAGLE PRO INDUSTRIAL TOOLS, INC. is not responsible for damage or injury caused by misuse, or lack of adequate training.

- ◆ Equipment user must be a qualified operator familiar with the correct operation, basic maintenance, and use of hydraulic torque wrenches. Lack of knowledge in any of these areas can lead to personal injury.
- ◆ Carefully inspect torque wrench, couplers, and hoses before use. If you find any damage do not use the product and contact your nearest authorized EAGLE PRO Service Center or distributor. Any damage can cause equipment failure and possible personal injury.
- ◆ Carefully inspect hydraulic pump before using . If any damage is found, discontinue use and contact your closest authorized EAGLE PRO Service Center.

- ◆ To avoid personal injury, do not modify or weld hydraulic equipment .
- ◆ All EAGLE PRO torque wrenches are designed for a maximum of 10,000 PSI/700 bar. Do not connect torque wrenches to a pump with a higher pressure rating or equipment damage may occur.
- ◆ Use high quality impact sockets that are in good condition with the hydraulic torque wrench. Ensure they are the correct size and engage the hex portion of the bolt/nut correctly. Unseen flaws or damage to the impact sockets could cause failures during use. Remain clear of impact sockets during application.
- ◆ Do not hammer on hydraulic torque wrench, pump or socket to enhance performance. If the bolt/nut will not rotate, select a larger torque wrench for the application.
- ◆ Do not pick up the torque wrench by the hydraulic hose or swivel.
- ◆ Do not pick up the hydraulic pump by the power cord, pendant control cord, or hydraulic hose.
- ◆ Electrical pumps should never be used in a potentially explosive environment.
- ◆ Ensure that the pump is properly grounded to guard against electrical shock.
- ◆ Do not use kinked or damaged hydraulic hoses.
- ◆ Carefully inspect the hydraulic couplers on pump, hoses, and torque wrenches before using. Never connect tools with damaged couplers or damaged port threads. The damaged coupler(s) or damaged port threads may cause equipment failure and possible personal injury.
- ◆ Install couplers in a clean environment. Always prevent dirt or other debris from entering into the cylinder. Dirt or debris will damage the tool and result in equipment failure and possible personal injury.
- ◆ Before removing or tightening hose(s) or coupler(s), always release hydraulic pressure in system .
- ◆ Never handle pressurized hoses; escaping oil under high pressure can penetrate the skin, causing serious injury. Seek medical aid immediately if injured.
- ◆ When the pump is not in use, release the valve, remove the hoses and use the dust cap to recover the port.
- ◆ Do not drop anything on hydraulic hoses.
- ◆ Fully retract the hydraulic torque wrench before adding fluid to the torque wrench pump. Failure to do so will result in excess reservoir pressure and could cause personal injury.
- ◆ Do not use equipment in temperatures of 150°F (65°C) or higher. Overheating will soften seals and weakens hose materials, resulting in oil leaks or other equipment failure.
- ◆ Use only EAGLE PRO brand replacement parts
- ◆ NEVER attempt to tighten more than the capacity of the torque wrench. Overloading will cause equipment failure and personal injury.
- ◆ Maximum operating pressure is 10,000 psi,(700 bar). NEVER use a pump or relief valve with a higher pressure rating to operate the torque wrench. Pressure above 10,000 psi could cause equipment failure and possible personal injury.
- ◆ Do not place any part of the body between the reaction arm and the reaction point.
- ◆ Do not place any objects between the reaction arm and the reaction points. Ensure all hoses are kept away from the reaction points.

- ◆ Always wear safety glasses, protective head gear, ear protectors, proper foot wear, work gloves, and other personal protective equipment when operating hydraulic equipment. Personal protective equipment must not interfere with the safe operation of the product.
- ◆ Always use a pressure gauge to monitor the system operating pressure. The gauge must have the same pressure rating as the pump and torque wrench being used. The incorrect gauge may cause equipment failure and possible personal injury.
- ◆ Keep hydraulic couplers clean and free of dirt and debris. Dust and/or sand will damage the seals and result in equipment failure and possible personal injury.
- ◆ Before removing or tightening hoses or couplers, ALWAYS fully release the hydraulic pressure in the system.
- ◆ NEVER remove or modify any parts of the torque wrench. NEVER adjust the safety valve. Modifying the torque wrench or adjusting the safety valve could result in equipment failure and possible personal injury.
- ◆ NEVER handle pressurized hoses. Oil under high pressure can penetrate the skin, causing serious injury. Seek medical attention immediately if injured.
- ◆ For technical assistance or repair service, please contact the nearest authorized EAGLE PRO Service Center. Service done by non-authorized service centers will void all warranties. EAGLE PRO INDUSTRIAL TOOLS, INC. has no obligations under any warranty with respect to products that have been repaired by unauthorized personnel, modified, or damaged through misuse, abuse, accident, neglect, or mishandling.



## **DANGER!**

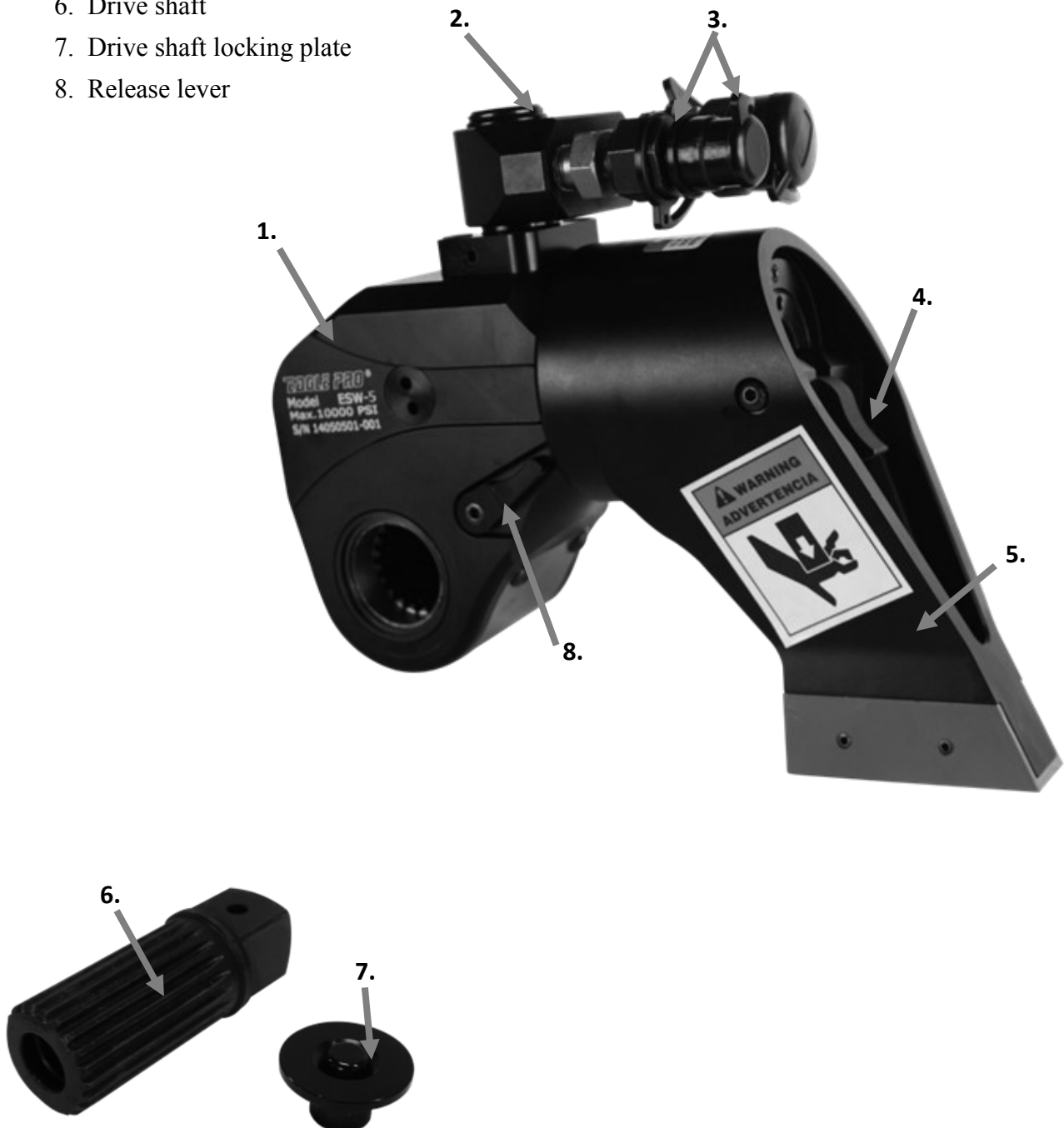
### **REACTION POINT SAFETY**

- ◆ Adjust reaction arm in the same direction as the square drive when possible. Avoid excessive play.
- ◆ Do not hold torque wrench during operation. If the torque wrench must be held or steadied during operation, use alternative means of securing tool to the application.
- ◆ Always ensure that all body parts and clothing are clear of the reaction arm and reaction surface during use.

## 02 TERMINOLOGY

### ESW Series Torque Wrench

1. Body
2. Swivel inlet
3. Couplers
4. Reaction arm release lever
5. Reaction arm
6. Drive shaft
7. Drive shaft locking plate
8. Release lever



## 03 INITIAL SETUP INSTRUCTIONS

Remove the torque wrench from the storage case and insert the drive shaft into the drive shaft body. Align splines on drive shaft with splines in torque wrench head – insert drive shaft. ***If drive shaft only seats part way into torque wrench head, you will need to manually rotate drive shaft until all the splines align and it is fully seated in torque wrench head.***

Push drive shaft retaining plate onto opposite side of torque wrench head.

### 3.1 TORQUE WRENCH USAGE

To prevent damage and undue wear, the torque wrench should be limited to 75%-80% of its maximum listed torque value during normal operations. Occasional use of the torque wrench at maximum listed torque is acceptable. Excessive use at maximum listed torque will reduce working life of the torque wrench.

### 3.2 CONNECTING THE SYSTEM

The EAGLE PRO ESW Series torque wrench is connected to the torque wrench pump with a dual, high strength thermo-plastic hydraulic hose assembly complete with hydraulic couplers and protective dust covers.

Once the torque wrench has been properly assembled, safely secure the torque wrench head. Locate the “A” port on the torque wrench. This port will have the female coupler. Hold the locking collar on the female coupler back, and firmly push the male coupler from the hydraulic hose into the female coupler and ensure they are correctly engaged. Then release the locking collar.

Locate the “R” port on the torque wrench. This port will have the male coupler. While securely holding the hydraulic hose assembly, pull the female locking collar back and hold. Push the female coupler from the hydraulic hose assembly onto the male coupler on the torque wrench. Ensure they are correctly engaged and release the locking collar. See Fig A.



FIG A

# 04

# TORQUE WRENCH OPERATION

Once the torque wrench pump and torque wrench are properly assembled and connected, and the hydraulic pump has a proper power supply, the pressure on the pump must be set. The amount of pressure the pump provides ultimately dictates the amount of torque the torque wrench can produce.

Torque sequence may vary from location to location and it may even vary within a single location. There are many variables that must be understood to achieve proper torque. Always abide by local procedures, regulations and ASME PCC-1-2013 standards.

Each EAGLE PRO torque wrench is supplied with a pressure-torque conversion chart. See the chart on page 8 for an example of the ESW torque wrench pressure-torque conversion chart.

## ESW SERIES TORQUE WRENCHES

MODEL	ESW-1	ESW-3	ESW-5	ESW-8	ESW-10	ESW-20
PSI	FT. LBS	FT. LBS	FT. LBS	FT. LBS	FT. LBS	FT. LBS
1000	134	328	547	783	1127	1937
1200	161	394	656	940	1352	2324
1400	188	459	766	1096	1578	2712
1600	215	525	875	1253	1803	3099
1800	242	590	985	1409	2029	3487
2000	268	656	1094	1566	2254	3874
2200	295	721	1203	1723	2480	4261
2400	322	787	1313	1879	2705	4649
2600	349	852	1422	2036	2931	5036
2800	376	918	1532	2193	3156	5424
3000	403	984	1641	2349	3381	5811
3200	430	1049	1750	2506	3607	6198
3400	457	1115	1860	2662	3832	6586
3600	483	1180	1969	2819	4058	6973
3800	510	1246	2079	2976	4283	7361
4000	537	1311	2188	3132	4509	7748
4200	564	1377	2297	3289	4734	8135
4400	591	1443	2407	3446	4959	8523
4600	618	1508	2516	3602	5185	8910
4800	645	1574	2626	3759	5410	9298
5000	672	1639	2735	3915	5636	9685
5200	698	1705	2844	4072	5861	10072
5400	725	1770	2954	4229	6087	10460
5600	752	1836	3063	4385	6312	10847
5800	779	1901	3173	4542	6538	11235
6000	806	1967	3282	4699	6763	11622
5200	833	2033	3391	4855	6988	12009
6400	860	2098	3501	5012	7214	12397
6600	887	2164	3610	5168	7439	12784
6800	914	2229	3720	5325	7665	13172
7000	940	2295	3829	5482	7890	13559
7200	967	2360	3938	5638	8116	13946
7400	994	2426	4048	5795	8341	14334
7600	1021	2491	4157	5951	8567	14721
7800	1048	2557	4267	6108	8792	15109
8000	1075	2623	4376	6265	9017	15496
8200	1102	2688	4485	6421	9243	15883
8400	1129	2754	4595	6578	9468	16271
8600	1155	2819	4704	6735	9694	16658
8800	1182	2885	4814	6891	9919	17046
9000	1209	2950	4923	7048	10145	17433
9200	1236	3016	5032	7204	10370	17820
9400	1263	3082	5142	7361	10595	18208
9600	1290	3147	5251	7518	10821	18595
9800	1317	3213	5361	7674	11046	18983
10000	1344	3278	5470	7831	11272	19370



## 4.1 SETTING SYSTEM PRESSURE/REQUIRED TORQUE

Below is an example of how to properly use the ESW Torque Wrench pressure-torque chart..

### EXAMPLE

*Application requires use of an ESW-3 EAGLE PRO hydraulic torque wrench to tighten a 1-1/2" bolt to 2100 Lb. Ft.*

**STEP 1.** Locate the correct model of the torque wrench along the top of the pressure-torque chart

**STEP 2.** Read straight down the column until you find the closest figure to 2100. In this application it would be 2164. 2164 is about 3% over the required torque value for this application.

**STEP 3.** From the figure of 2164, read all the way over to the left hand column of the chart, this will tell you what pressure the pump must product to reach this torque value. In this case, to reach 2164 lb. ft. of torque with the ESW-3 torque wrench, the torque wrench pump must product 6600 PSI.

*As 2164 lb. ft. of torque is within the +/-3% accuracy range of the ESW-3 torque wrench, you could leave the pressure at 6600 PSI. For higher precision, you should reduce the 6600 PSI by 3% to 6402 PSI.*

## 4.2 SETTING PUMP PRESSURE

Now that pump pressure has been determined, follow the procedure below to set the pump pressure.

**STEP 1.** Loosen the lock ring on the "T" handle of the external pressure valve. Turn the "T" handle counter clockwise until it moves easily.

**STEP 2.** Turn the pump on. Using the pendant control, push down on the ADVANCE button and hold it.

**STEP 3.** While continuing to hold the ADVANCE button down, slowly turn the "T" handle clockwise and watch the pressure rise on the pump pressure gauge.

**STEP 4.** When the gauge reaches the required pressure (see example above to determine required pressure) stop turning the "T" handle and allow the pressure to stabilize.

**STEP 5.** If the pressure continues to rise above required pressure, release the ADVANCE button and turn the "T" handle counter clockwise, this will reduce system pressure. Press the ADVANCE button again and slowly bring the pressure up to the required pressure.

**STEP 6.** Once the pressure is correct, turn the pump off. Tighten the lock ring on the "T" handle against the valve body. This will lock the "T" handle in place and prevent pressure changes. This sets the pump pressure which ultimately determines the torque output of the torque wrench. Cycle the pump one final time to ensure that the pressure is properly set.



### IMPORTANT!

Do not adjust the pump pressure while the torque wrench is operating. Adjust the regulator so that the pressure is increasing, not decreasing. If you have to lower pump pressure, start the pressure setting procedure from the beginning.

## 4.3 POSITIONING HYDRAULIC TORQUE WRENCH

The EAGLE PRO ESW series hydraulic torque wrenches feature a 360° adjustable reaction arm. This reaction arm is used to counteract the forces created as the torque wrench operates. The reaction arm should extend in the same direction as the square drive, slight adjustments may be made to suit the particular application. See FIG B. The reaction arm should always be fully engaged and properly secured by the reaction arm release lever.



FIG B

The ESW series torque wrenches rotate in one direction, clock-wise. For tightening applications ensure that the torque wrench is orientated as below FIG C, relative to the work piece

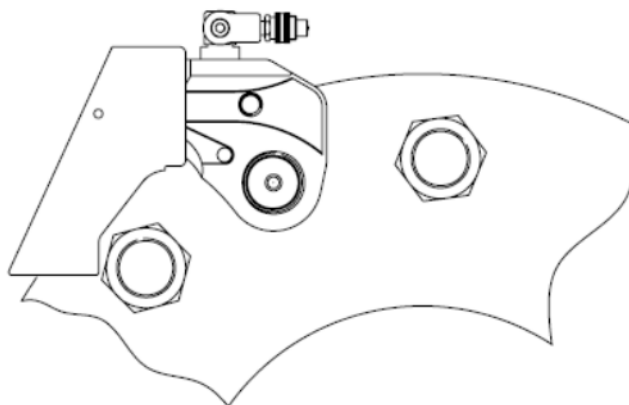


FIG C

For loosening applications, ensure that the torque wrench is orientated as below FIG D, relative to the work piece.

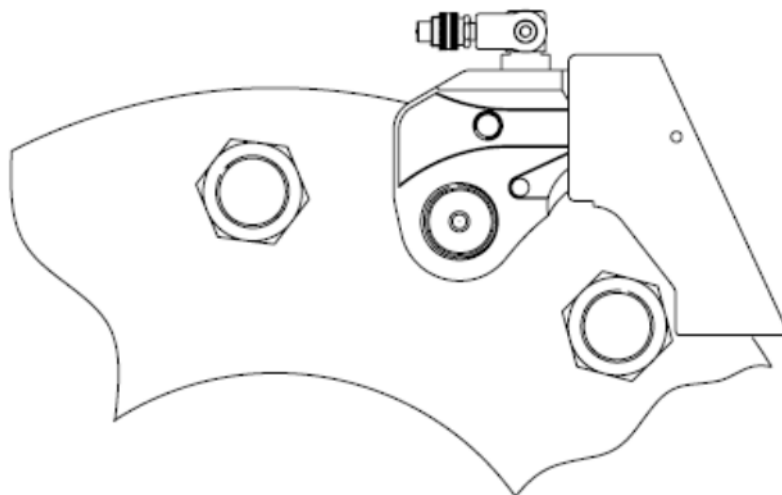


FIG D

## 4.4 HYDRAULIC TORQUE WRENCH “LOCK-ON”

Should the torque wrench lock-on during operation, push down on the ADVANCE button on the torque wrench pump to build pressure. Continue to hold the ADVANCE button down and push the drive release lever down. Release the ADVANCE button while continuing to hold the drive release lever down. This will allow the torque wrench to be removed.



Release lever

# 5

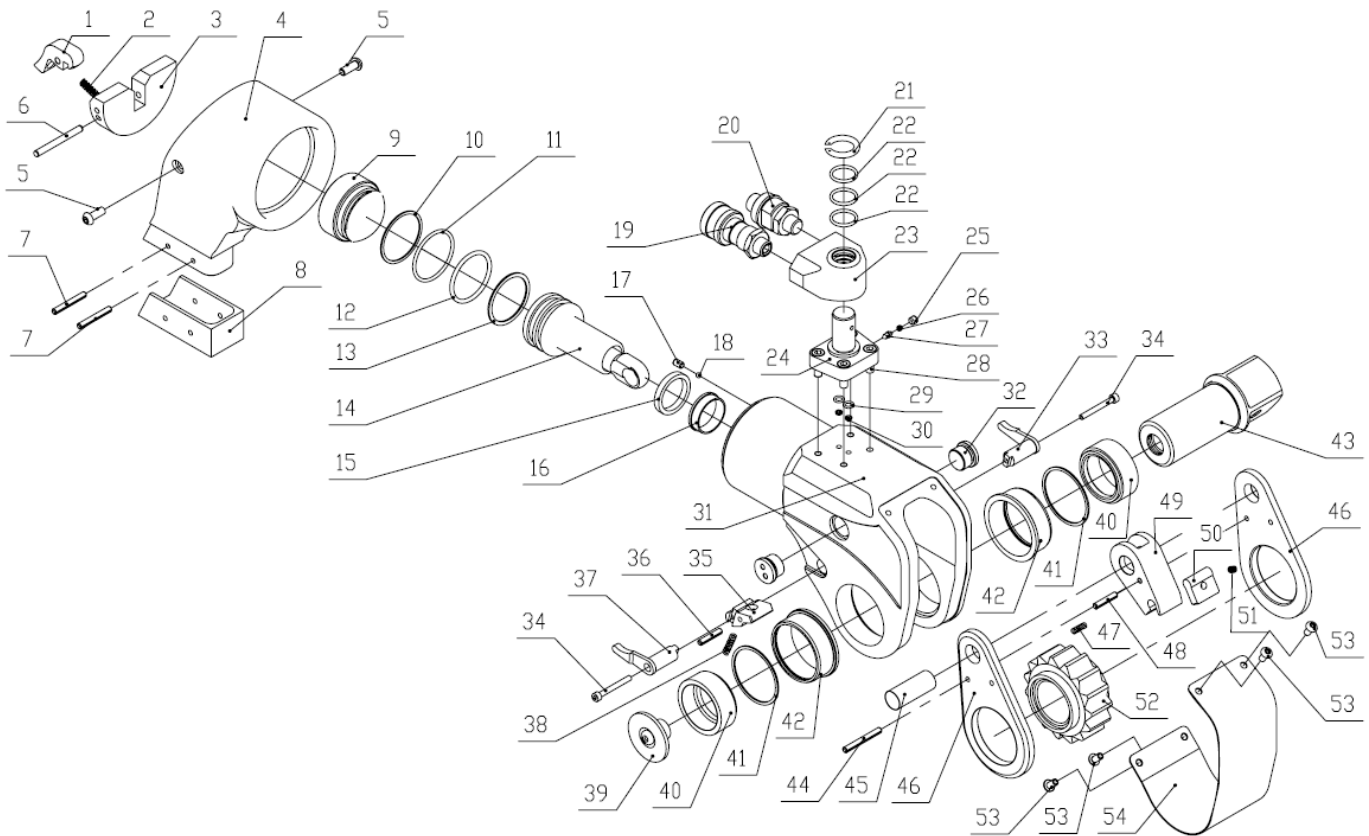
## Torque Wrench Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Cylinder will not advance Cylinder will not retract	Couplers not correctly assembled	Inspect coupler connection
	Cylinder seal leakage	Inspect and replace seal
	Pump problems	Inspect pump
	Bad coupler(s)	Replace coupler(s)
	Voltage/amps to electric pump too low	Shorter extension cord, find proper power supply
Torque wrench operates backwards	Reversed connections	Inspect all connections
Will not build pressure	Cylinder seal leakage	Inspect and replace seal
	Swivel seal leakage	Inspect and replace seal
	Pump problems	Inspect pump
Pump produces pressure, but torque wrench does not rotate	Hose blockage	Inspect and replace hose
	Couplers not correctly assembled	Inspect coupler connection
Slow torque wrench rotation	Hose blockage	Inspect and replace hose
	Couplers not correctly assembled	Inspect coupler connection
	Pump too small	Use larger pump
Retraction speed slow or erratic	Hose blockage	Inspect and replace hose
	Couplers not correctly assembled	Inspect coupler connection
Torque wrench does not ratchet	Broken drive shoe	Replace drive shoe
	Jammed drive shoe	Inspect drive shoe and spring
	Damaged ratchet	Inspect and replace ratchet
Ratchet jumps while operating	Worn or damaged ratchet	Inspect and replace ratchet and drive shoe
	worn or damaged drive shoe	Inspect and replace ratchet and drive shoe
	Wrench incorrectly retracted	Allow to fully retract
	Weak or snapped drive shoe spring	Replace springs
Hose connection difficulty	Pressure in hose	Safely release pressure from hose
	Damaged coupler	Replace coupler(s)
Swivel safety valve releasing hydraulic fluid	Couplers not correctly assembled	Inspect coupler connection
	Damaged coupler	Replace coupler(s)
	System pressure too high	Reduce pump output pressure

# 6

## Torque Wrench Parts Breakdowns

### ESW-1 TORQUE WRENCH



## ESW-1 PARTS LIST

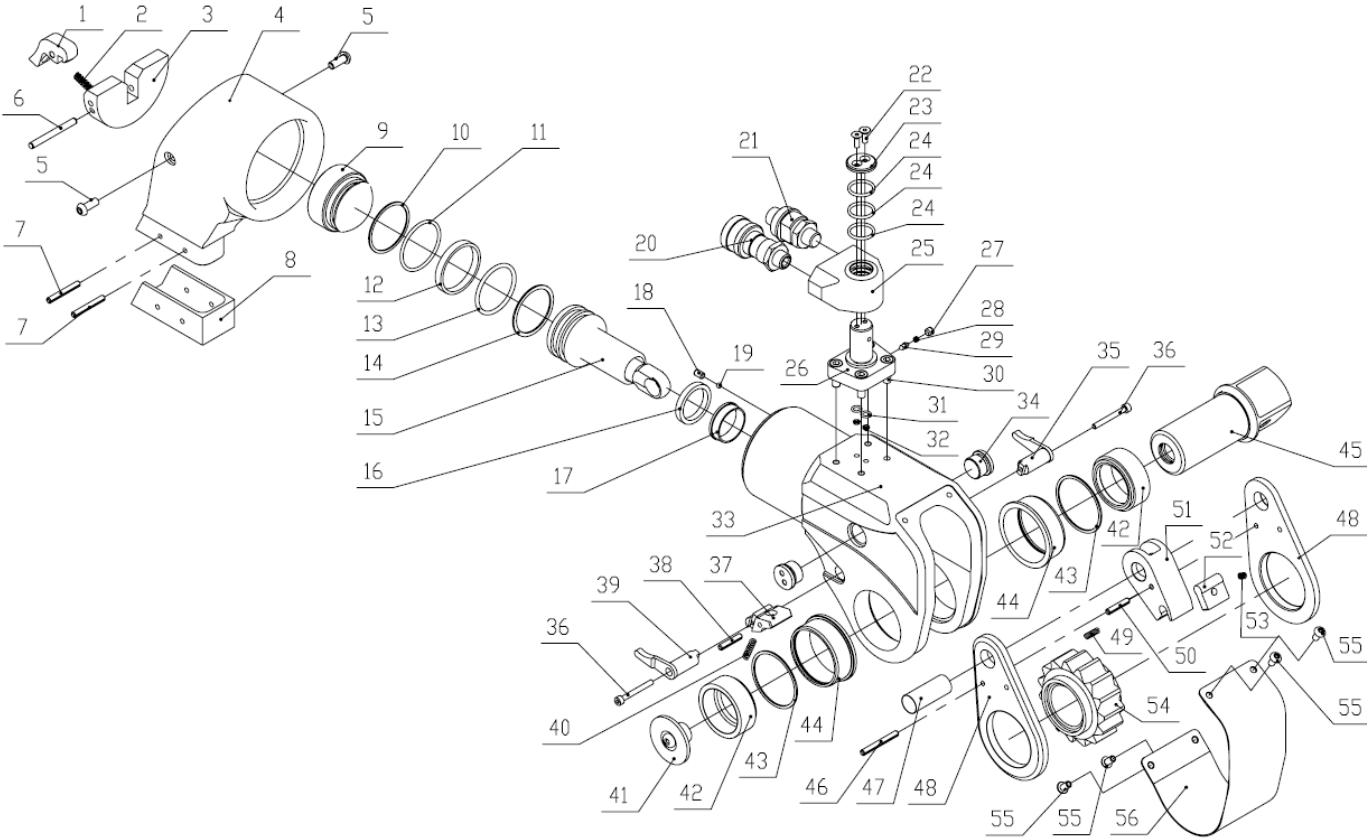
NO	Part No.	Description	QTY	NO	Part No.	Description	QTY
1	ESW1-03	Reaction Arm Release Lever	1	28	11004	Bolt	4
2	ESW1-02	Spring	1	29▲	JT04-12	Seal	2
3	ESW1-05	Arm Retain Base	1	30★	42986	O-ring	2
4	ESW1-04	Reaction Arm	1	31	ESW1-11	Housing	1
5	13069	Bolt	2	32	ESW1-16	Bolt	2
6	41164	Pin	1	33	ESW1-20	Release Lever	1
7	13328	Pin	2	34	11027	Bolt	2
8	ESW1-01	Reaction Arm Boot	1	35	ESW1-25	Segment slider	1
9	ESW1-06	Cylinder Base	1	36	41165	Pin	1
10★	ESW1-07	Gasket	1	37	ESW1-21	Release Lever	1
11★	42982	O-ring	1	38	ESW1-26	Spring	1
12★	42983	O-ring	1	39	JS1-00	Drive Release	1
13★	ESW1-08	Gasket	1	40	ESW1-23	Drive Bushing	2
14	ESW1-1214	Piston	1	41	EH-30	Snap-ring	2
15★	42984	O-ring	1	42	ESW1-24	Steel Bushing	2
16	ESW1-13	Copper Ring	1	43	ESW1-22	Drive Shaft	1
17	11026	Bolt	1	44	13328	Pin	1
18	41018	Steel Ball	1	45	ESW1-18	Drive Pin	1
19	EAB-204TA	Female Coupler	1	46	ESW1-17	Drive Plate	2
20	EAB-204TB	Male Coupler	1	47	ESW1-29	Spring	2
21	13220	Snap Ring	1	48	13323	Pin	1
22▲	42985	O-ring	3	49	ESW1-30	Drive claw	1
23	JT04-02	Swivel Block	1	50	ESW1-28	Drive Tip	1
24	JT04-01	Swivel Base	1	51	ESW1-27	Spring	1
25	11022	Bolt	1	52	ESW1-19	Ratchet	1
26	JT04-10	Spring	1	53	11026	Bolt	4
27	JT04-11	Pin	1	54	ESW1-15	Cover	1

1. Item number included ★ is a part of the Repair Kit. Repair Kit order number: **ESW1-RP-A**

2. Item number included ▲ is a part of repair kit for swivel. Repair Kit order number: **EJT4-RP-A**

3. For Optional Swivel Repair Kit order number: **EJT3-RP-A**

# ESW-3 TORQUE WRENCH



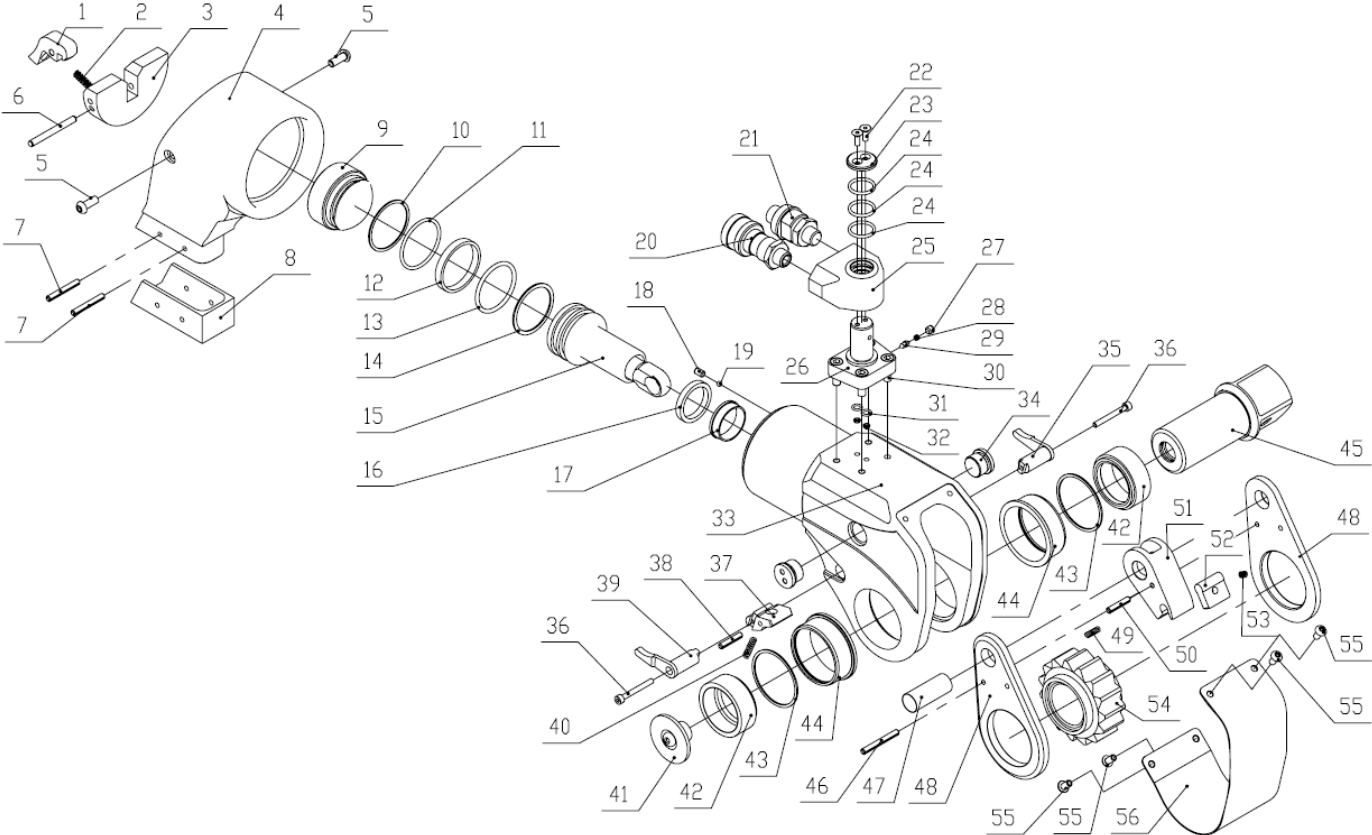
## ESW-3 PARTS LIST

NO	Part No.	Description	QTY	NO	Part No.	Description	QTY
1	ESW3-03	Reaction Arm Release Lever	1	29	EJT6-11	Pin	1
2	ESW3-02	Spring	1	30	11004	Bolt	4
3	ESW3-05	Arm Retain Base	1	31▲	EJT6-12	Seal	2
4	ESW3-04	Reaction Arm	1	32★	24221	O-ring	2
5	13074	Bolt	2	33	ESW3-11	Housing	1
6	41158	Pin	1	34	ESW3-16	Bolt	2
7	13347	Pin	2	35	ESW3-20	Release Lever	1
8	ESW3-01	Reaction Arm Boot	1	36	12007	Bolt	2
9	ESW3-06	Cylinder Base	1	37	ESW3-20	Segment slider	1
10★	ESW3-07	Gasket	1	38	13331	Pin	1
11★	24280	O-ring	1	39	ESW3-21	Release Lever	1
12	42308	Anti-w ear Ring	1	40	ESW3-26	Spring	1
13★	24281	O-ring	1	41	JS3-00	Drive Release	1
14★	ESW3-08	Gasket	1	42	ESW3-23	Drive Bushing	2
15	ESW3-1214	Piston	1	43	EH-40	Snap-ring	2
16★	24352	U-ring	1	44	ESW3-24	Steel Bushing	2
17	ESW3-13	Copper Ring	1	45	ESW3-22	Drive Shaft	1
18	14034	Bolt	1	46	13349	Pin	1
19	41003	Steel Ball	1	47	ESW3-18	Drive Pin	1
20	EAB-204TA	Female Coupler	1	48	ESW3-17	Drive Plate	2
21	EAB-204TB	Male Coupler	1	49	ESW3-29	Spring	2
22	11021	Bolt	2	50	13342	Pin	1
23	EJT6-09	Cover	1	51	ESW3-30	Drive claw	1
24▲	42960	O-ring	3	52	ESW3-28	Drive Tip	1
25	EJT5-01	Sw ivel Block	1	53	ESW3-27	Spring	1
26	EJT6-01	Sw ivel Base	1	54	ESW3-19	Ratchet	1
27	11022	Bolt	1	55	13073	Bolt	4
28	EJT6-10	Spring	1	56	ESW3-15	Cover	1

1. Item number included ★ is a part of the Repair Kit. Repair Kit order number: **ESW3-RP-A**
2. Item number included ▲ is a part of repair kit for swivel. Repair Kit order number: **EJT5-RP-A**
3. For Optional Swivel Repair Kit order number: **EJT6-RP-A**



# ESW-5 TORQUE WRENCH



## ESW-5 PARTS LIST

NO	Part No.	Description	QTY	NO	Part No.	Description	QTY
1	ESW5-03	Reaction Arm Release Lever	1	29	EJT6-11	Pin	1
2	ESW5-02	Spring	1	30	11004	Bolt	4
3	ESW5-05	Arm Retain Base	1	31▲	EJT6-12	Seal	2
4	ESW5-04	Reaction Arm	1	32★	24221	O-ring	2
5	12015	Bolt	2	33	ESW5-09	Housing	1
6	13427	Pin	1	34	ESW5-14	Bolt	2
7	41159	Pin	2	35	ESW5-18	Release Lever	1
8	ESW5-01	Reaction Arm Boot	1	36	12008	Bolt	2
9	ESW5-06	Cylinder Base	1	37	ESW3-20	Segment slider	1
10★	21428	Gasket	1	38	13344	Pin	1
11★	42961	O-ring	1	39	ESW5-19	Release Lever	1
12	21669	Anti-w ear Ring	1	40	ESW3-26	Spring	1
13★	42965	O-ring	1	41	JS5-00	Drive Release	1
14★	21428	Gasket	1	42	ESW5-21	Drive Bushing	2
15	ESW5-1012	Piston	1	43	EH-48	Snap-ring	2
16★	43671	U-ring	1	44	ESW5-22	Steel Bushing	2
17	ESW5-11	Copper Ring	1	45	ESW5-20	Drive Shaft	1
18	14006	Bolt	1	46	13350	Pin	1
19	41003	Steel Ball	1	47	ESW5-16	Drive Pin	1
20	EAB-204TA	Female Coupler	1	48	ESW5-15	Drive Plate	2
21	EAB-204TB	Male Coupler	1	49	ESW5-26	Spring	2
22	11021	Bolt	2	50	13344	Pin	1
23	EJT6-09	Cover	1	51	ESW5-27	Drive claw	1
24▲	42960	O-ring	3	52	ESW5-25	Drive Tip	1
25	EJT5-01	Swivel Block	1	53	ESW5-24	Spring	1
26	EJT6-01	Swivel Base	1	54	ESW5-17	Ratchet	1
27	11022	Bolt	1	55	13073	Bolt	4
28	EJT6-10	Spring	1	56	ESW5-13	Cover	1

- Item number included ★ is a part of the repair kit. Repair Kit order number: **ESW5-RP-A**
- Item number included ▲ is a part of repair kit for swivel. Repair Kit order number: **EJT5-RP-A**
- For Optional Swivel repair kit order number: **EJT6-RP-A**

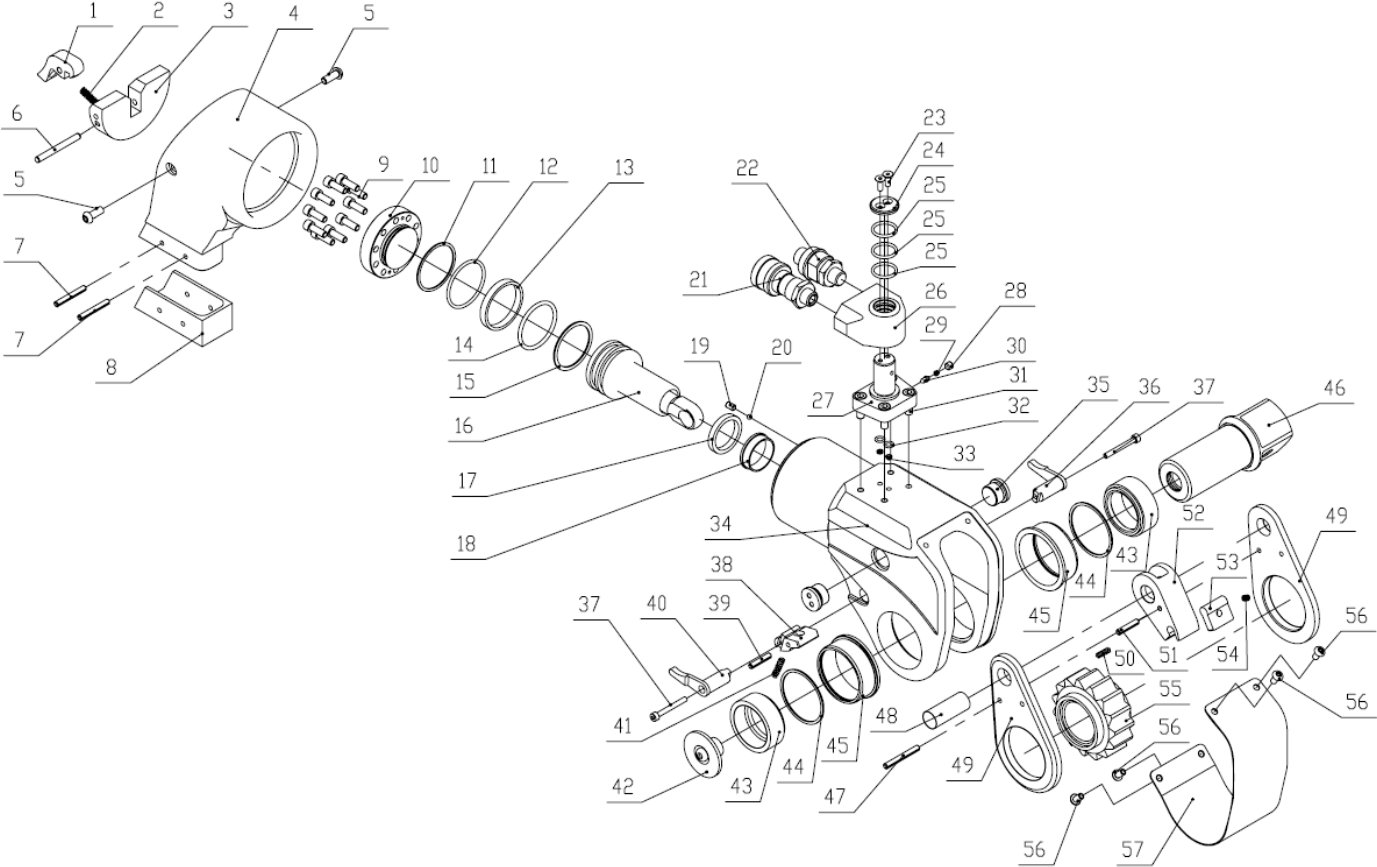


## ESW-8 PARTS LIST

NO	Part No.	Description	QTY	NO	Part No.	Description	QTY
1	ESW8-06	Reaction Arm Release Lever	1	30	EJT6-11	Pin	1
2	ESW5-02	Spring	1	31	11004	Bolt	4
3	ESW8-07	Arm Retain Base	1	32▲	EJT6-12	Seal	2
4	ESW8-05	Reaction Arm	1	33★	24221	O-ring	2
5	13088	Bolt	2	34	ESW8-09	Housing	1
6	13427	Pin	1	35	ESW8-19	Bolt	2
7	13350	Pin	2	36	ESW8-03	Release Lever	1
8	ESW8-04	Reaction Arm Boot	1	37	12008	Bolt	2
9	ESW8-08	Cylinder Base	1	38	ESW8-02	Segment slider	1
10	13004	Bolt	10	39	13344	Pin	1
11★	21429	Gasket	1	40	ESW8-01	Release Lever	1
12★	42962	O-ring	1	41	ESW8-25	Spring	1
13	42306	Anti-w ear Ring	1	42	JS8-00	Drive Release	1
14★	21429	O-ring	1	43	ESW8-22	Drive Bushing	2
15★	42962	Gasket	1	44	EH-55	Snap-ring	2
16	ESW8-1014	Piston	1	45	ESW8-21	Steel Bushing	2
17★	43672	U-ring	1	46	ESW8-23	Drive Shaft	1
18	ESW8-13	Copper Ring	1	47	13350	Pin	1
19	14011	Bolt	1	48	ESW8-18	Drive Pin	1
20	41004	Steel Ball	1	49	ESW8-17	Drive Plate	2
21	EAB-204TA	Female Coupler	1	50	ESW5-26	Spring	2
22	EAB-204TB	Male Coupler	1	51	13345	Pin	1
23	11021	Bolt	2	52	ESW8-15	Drive claw	1
24	EJT6-09	Cover	1	53	ESW8-16	Drive Tip	1
25▲	42960	O-ring	3	54	ESW5-24	Spring	1
26	EJT5-01	Sw ivel Block	1	55	ESW8-20	Ratchet	1
27	EJT6-01	Sw ivel Base	1	56	13073	Bolt	4
28	11022	Bolt	1	57	ESW8-24	Cover	1
29	EJT6-10	Spring	1				

1. Item number included ★ is a part of the repair kit. Repair Kit order number: **ESW8-RP-A**.
2. Item number included ▲ is a part of repair kit for swivel. Repair Kit order number: **EJT5-RP-A**
3. For Optional Swivel, Kit order number: **EJT6-RP-A**

# ESW-10 TORQUE WRENCH

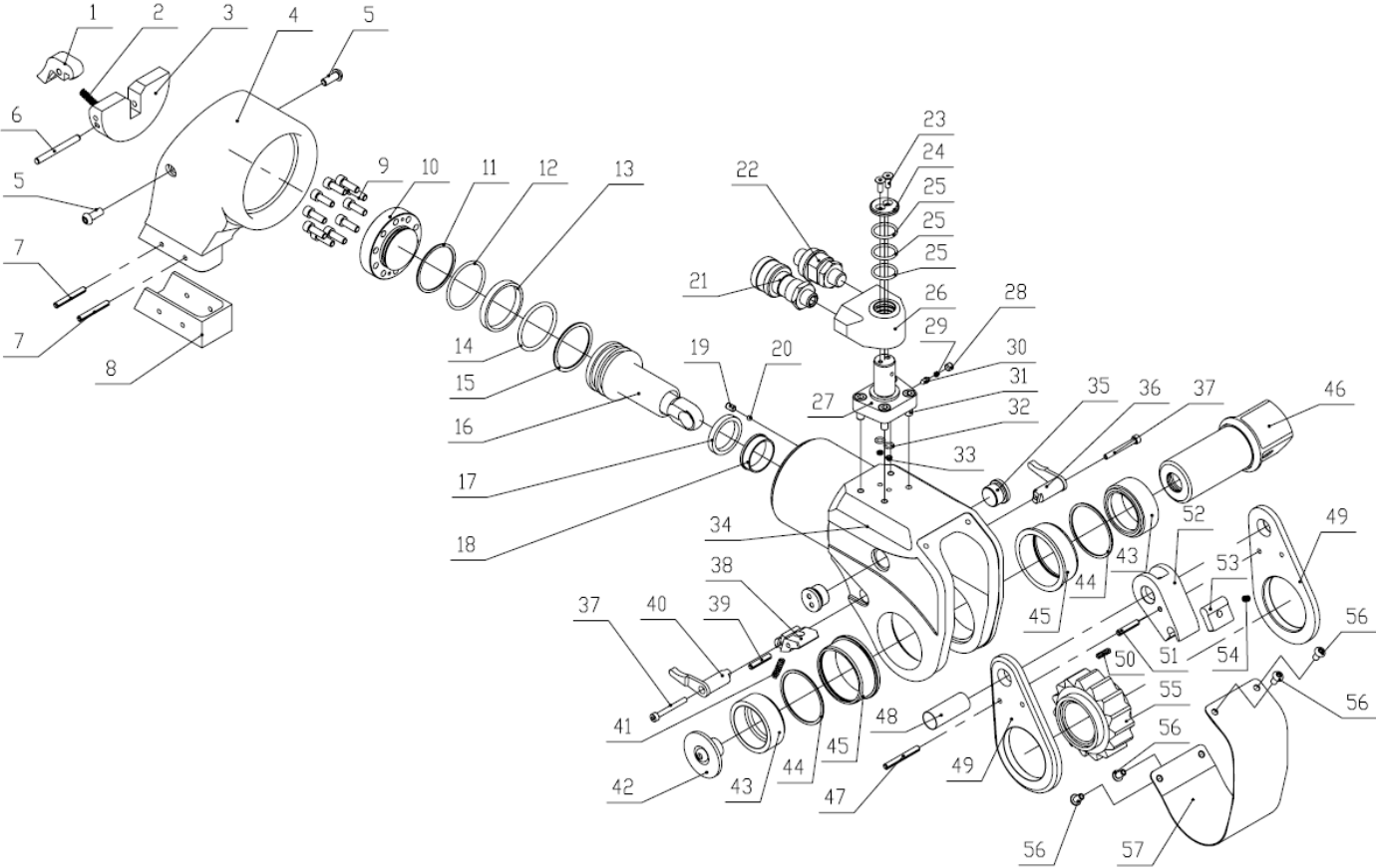


## ESW-10 PARTS LIST

NO	Part No.	Description	QTY	NO	Part No.	Description	QTY
1	ESW10-06	Reaction Arm Release Lever	1	30	EJT6-11	Pin	1
2	ESW5-02	Spring	1	31	11004	Bolt	4
3	ESW8-07	Arm Retain Base	1	32▲	EJT6-12	Seal	2
4	ESW10-05	Reaction Arm	1	33★	24221	O-ring	2
5	13002	Bolt	2	34	ESW10-09	Housing	1
6	13429	Pin	1	35	ESW10-22	Bolt	2
7	13350	Pin	2	36	ESW10-03	Release Lever	1
8	ESW10-04	Reaction Arm Boot	1	37	12020	Bolt	2
9	ESW10-08	Cylinder Base	1	38	ESW10-02	Segment slider	1
10	13004	Bolt	10	39	13346	Pin	1
11★	21430	Gasket	1	40	ESW10-01	Release Lever	1
12★	24056	O-ring	1	41	ESW10-25	Spring	1
13	21535	Anti-w ear Ring	1	42	JS10-00	Drive Release	1
14★	P50A	O-ring	1	43	ESW10-25	Drive Bushing	2
15★	41819	Gasket	1	44	EH-55	Snap-ring	2
16	ESW10-1014	Piston	1	45	ESW10-24	Steel Bushing	2
17★	24288	U-ring	1	46	ESW10-27	Drive Shaft	1
18	ESW10-13	Copper Ring	1	47	41156	Pin	1
19	14011	Bolt	1	48	ESW10-21	Drive Pin	1
20	41004	Steel Ball	1	49	ESW10-20	Drive Plate	2
21	EAB-204TA	Female Coupler	1	50	ESW10-16	Spring	2
22	EAB-204TB	Male Coupler	1	51	41154	Pin	1
23	11021	Bolt	2	52	ESW10-17	Drive claw	1
24	EJT6-09	Cover	1	53	ESW10-19	Drive Tip	1
25▲	42960	O-ring	3	54	ESW10-18	Spring	1
26	EJT5-01	Sw ivel Block	1	55	ESW10-23	Ratchet	1
27	EJT6-01	Sw ivel Base	1	56	13073	Bolt	4
28	11022	Bolt	1	57	ESW10-26	Cover	1
29	EJT6-10	Spring	1				

1. Item number included ★ is a part of the repair kit. Repair Kit order number: **ESW10-RP-A**.
2. Item number included ▲ is a part of repair kit for swivel. Repair Kit order number: **EJT5-RP-A**
3. For Optional Swivel, Kit order number: **EJT6-RP-A**

# ESW-20 TORQUE WRENCH



## ESW-20 PARTS LIST

NO	Part No.	Description	QTY	NO	Part No.	Description	QTY
1	ESW20-02	Reaction Arm Release Lever	1	30	EJT6-11	Pin	1
2	ESW20-03	Spring	1	31	11004	Bolt	4
3	ESW20-04	Arm Retain Base	1	32▲	EJT6-12	Seal	2
4	ESW20-01	Reaction Arm	1	33★	24221	O-ring	2
5	13002	Bolt	2	34	ESW20-06	Housing	1
6	41153	Pin	1	35	ESW20-16	Bolt	2
7	13350	Pin	2	36	ESW20-25	Release Lever	1
8	ESW20-26	Reaction Arm Boot	1	37	12020	Bolt	2
9	ESW20-05	Cylinder Base	1	38	ESW20-23	Segment slider	1
10	13020	Bolt	10	39	41155	Pin	1
11★	41820	Gasket	1	40	ESW20-24	Release Lever	1
12★	42964	O-ring	1	41	ESW10-16	Spring	1
13	42307	Anti-w ear Ring	1	42	JS20-00	Drive Release	1
14★	GS55044-0700	Seal	1	43	ESW20-18	Drive Bushing	2
15★	41820	Gasket	1	44	EH-55	Snap-ring	2
16	ESW20-0711	Piston	1	45	ESW20-17	Steel Bushing	2
17★	43673	U-ring	1	46	ESW20-19	Drive Shaft	1
18	ESW20-10	Copper Ring	1	47	41157	Pin	1
19	14011	Bolt	1	48	ESW20-12	Drive Pin	1
20	41004	Steel Ball	1	49	ESW20-20	Drive Plate	2
21	EAB-204TA	Female Coupler	1	50	ESW20-13	Spring	2
22	EAB-204TB	Male Coupler	1	51	41155	Pin	1
23	11021	Bolt	2	52	ESW20-14	Drive claw	1
24	EJT6-09	Cover	1	53	ESW20-15	Drive Tip	1
25▲	42960	O-ring	3	54	ESW10-18	Spring	1
26	EJT5-01	Swivel Block	1	55	ESW20-21	Ratchet	1
27	EJT6-01	Swivel Base	1	56	13073	Bolt	4
28	11022	Bolt	1	57	ESW20-22	Cover	1
29	EJT6-10	Spring	1				

1. Item number included ★ is a part of the repair kit. Repair Kit order number: **ESW20-RP-A**.
2. Item number included ▲ is a part of repair kit for swivel. Repair Kit order number: **EJT5-RP-A**
3. For Optional Swivel, Kit order number: **EJT6-RP-A**